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styling procedures such as perms, dyeing, tinting, frosting, highlighting, hair curling and hair straightening. Face shields have particular application during these procedures where facial contact is to be avoided with spillage of the various fluids and solutions. In addition, such shields protect the user from fumes associated with chemicals in the various fluids and solutions.

In addition, face shields may have application during simple hair cutting procedures. During hair cutting, hair cuttings typically fall onto the face and a face shield would prevent such undesirable contact.

Various face shields have been developed in the art. For example in U.S. Patent No. 4,856,535 to Forbes, there is provided a face shield which is provided with an adhesive strip at the uppermost portion of the shield for affixing the shield to the face. While such an arrangement may be effective in protecting the face against fluid sprays, there are several problems associated with such a design. The shield is not readily removable and reattachable to and from the user's face. Typically, a user would not desire to use a face shield when not required for protection. Such removability/reattachability features of a face shield are especially desirable where the shield is intermittently required. In addition, there are problems with the nature of the adhesive seal. As the adhesive seal is increasingly exposed to fluids, the adhesive characteristic decreases which leads to leakage and attachment problems.

Other designs have been developed to affix the face shield to the user's face. For example, referring to U.S. Patent No. 5,088,114 to Salce et al., there is provided a face shield which is provided with either arm members which clamp around the user's head or a strap to hold the device in contact with the user's head. Such clamping arm members

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and head straps tend to make the face shield not readily removable. In addition, clamping arm members and head straps may interfere with the particular procedure which the user is under going. For example, it would be  
5 difficult to shampoo a user's hair with a head strap in place.

Other prior art face shields have avoided the above methods of affixing the shields to the user's face by provided the face shield with a handle for manually holding  
10 the device adjacent to the user's face and for removing the face shield when facial protection is not needed. For examples, see Patent No. 3,772,707 to Alosi et al. and German Patent No. 3,500,198 to Esse. A problem with these and other prior art face shields, however, is that they may  
15 not be equipped with a seal at the forehead (e.g., Patent No. 3,772,707 to Alosi et al.). Even where a forehead seal may be included (e.g., the rubberized edge contemplated in German Patent No. 3,500,198 to Esse), another problem  
20 encountered by prior art designs is that when fluids are encountered at the forehead the fluid may run down the front of the shield. This is especially problematic where the fluid is a dye and may result in obstructing viewing through the shield. In addition, when fluids run down the  
25 front of the shield, the fluids would continue to run down the handle and onto the user's hand and arm. This is especially undesirable where the fluids are dyes or other chemicals. No attempt has been made to direct the fluids away from the face, toward the sides.

Accordingly, there is a need in the art for a device  
30 which is readily removed from the user's face, protects the user's face against spray and against spillage occurring at the user's forehead, and directs spillage occurring at the user's forehead away from the face.

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In accordance with the present invention, there is provided a face shield/fan for protecting a user's face against spray and against spillage occurring at the user's forehead, for dissipating odors and heat and for facilitating drying, the face shield/fan is provided with a mask. The mask is generally formed to receive a user's face and is provided with an upper portion and a lower portion. The upper portion is generally formed to correspond to the user's forehead. The face shield/fan is further provided with a sealing member which is attachable to the upper portion of the mask. The sealing member is generally formed to conform to the contours of the user's forehead for sealing therewith, for directing spillage occurring at the user's forehead away from the user's face. The face shield/fan is further provided with a handle. The handle is disposable adjacent to the lower portion of the mask and is used for manually supporting the face shield/fan against the user's forehead and for facilitating waving of the face shield/fan to dissipate odors and heat and facilitate drying.

In addition, the sealing member is provided with a channel. The channel is generally formed to span the width of the user's forehead and formed to face outward from the user's face, for directing spillage away from the user's face. In the preferred embodiment of the present invention, the channel is further formed to extend generally downward adjacent to the user's eyes, for directing spillage away from the user's face and eyes. The channel may also be formed to extend generally downward below the user's eyes, for increased protection of the face and eyes.

In the preferred embodiment of the present invention, the upper portion of the mask is provided with an upper edge and the sealing member is provided with a groove which

5 The mask may comprise a semi-rigid polymer material. Preferably, the mask comprises a thermoplastic material. In addition, the mask is formed of a transparent material for allowing the user to see therethrough and may contain indicia thereon and/or therein. The mask may be formed to  
10 generally resemble a particular set of ethnic facial features. The mask and the handle are formed of a continuous material.

The mask is preferably provided with a pair of opposed side edges and the face shield/fan is further provided with a pair of edge guards. The edge guards are formed to respectively receive the side edges and are formed of a generally flexible material, for protecting the user's face from the side edges of the mask.

In addition, there is provided a method of forming the  
20 above described face shield/fan of the present invention.

The face shield/fan of the present invention addresses the various problems associated with the prior art designs by providing a handle for manually holding the face shield/fan to the user's face and a sealing member for directing spillage occurring at the user's forehead away from the user's face.

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This is especially the case where the sealing member is provided with a facially outward facing channel. Fluids from the user's forehead region which come into contact with the face shield/fan are directed away from the face, toward the sides of the face. As such, the problems associated with fluids running down the front of the shield are mitigated.

10           An additional attribute of the present invention is  
that it may be utilized as a fan, as facilitated by the  
handle and the general shape of the mask. Thus, the face  
shield/fan may be used for dissipating undesirable, fumes,  
odors and heat away from the face. In addition the face  
15 shield/fan may facilitate drying where drying is desirable  
at the face, forehead, scalp, hair, etc. Thus, the present  
invention serves a dual purpose which further enhances its  
novelty.

Accordingly, the face shield/fan of the present  
20 invention represents a substantial advance in the art.

### Brief Description of the Drawings

These, as well as other features of the present invention, will become more apparent upon reference to the drawings wherein:

Figure 1 is a perspective view of the face shield/fan constructed in accordance with the present invention as shown being held adjacent a user's face;

Figure 2 is another perspective view of the face  
30 shield/fan of the present invention;

Figure 3 is top view of the sealing member;

Figure 4 is a cross-sectional view of the sealing member shown in Figures 1 and 3, as seen along axis 4-4, as shown adjacent a user's forehead; and

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directed away from and toward to sides of the user's face 12. The face shield/fan 10 is further provided with a handle 24. The handle 24 is disposable adjacent to the lower portion 20 of the mask 16 and is used for manually supporting the face shield/fan 10 against the user's forehead 14 and for facilitating waving of the face shield/fan 10 to dissipate odors and heat and facilitate drying.

In addition, the sealing member 22 is provided with a channel 26. The channel 26 is generally formed to span the width of the user's forehead 14 and formed to face outward from the user's face 12, for directing spillage away from the user's face 12. It is contemplated that as fluid spillage occurring at the user's forehead 14 is encountered with the channel 26 of the sealing member 22, the spillage is directed laterally and away from the user's face 12. In the preferred embodiment of the present invention, the channel 26 is further formed to extend generally downward adjacent to the user's eyes 28, for directing spillage away from the user's face 12 and eyes 28, as best shown in Figures 2, 3 and 4. The channel 26 may also be formed to extend generally downward below the user's eyes 28, for increased protection of the face 12 and eyes 28. It is contemplated that the channel 26 facilitates the directing of any spillage occurring at the user's forehead 14 away from the user's face 12.

Referring now to Figures 1 and 4, face shield/fan 10 is depicted as being generally vertically aligned with respect to the user's face 12. It is contemplated, however, that the face shield/fan 10 may be aligned at an angle with respect to the user's face 12 by moving the handle 24 forward while maintaining the sealing member 22 in contact with user's forehead 14. Such an alignment may facilitate, for example, facial ventilation and/or verbal

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communication, while substantially maintaining protection the user's face 12.

In the preferred embodiment of the present invention, the upper portion 18 of the mask 16 is provided with an upper edge 30 and the sealing member 22 is provided with a groove 32 which is formed to receive the upper edge 30, for attaching the sealing member 22 to the mask 16. The groove is best seen in the cross-sectional view of the sealing member 22 in Figure 4.

The sealing member 22 may comprise a generally flexible polymer material. Preferably, the sealing member 22 comprises a rubber material. It is contemplated that the sealing member 22 have the characteristic of being water-resistant which would result in a design which avoids that sealing member 22 from becoming saturated with fluids. The mask 16 may comprise a semi-rigid polymer material. Preferably, the mask 16 comprises a thermoplastic material.

In addition, the mask 16 is formed of a transparent material for allowing the user to see therethrough. It is contemplated that only the portions of the mask 16 which correspond to the user's eyes may be transparent and may comprise a different material type than the rest of the mask 16. For example, the eye portions of the mask 16 may comprise a set of optical lenses integral to the mask 16. Furthermore, the mask 16 may contain indicia thereon and/or therein. For example, referring to Figure 1, indicia 34 resembles a rose. It is contemplated that the mask 16 may be formed from a sheet of material which may be vacuumed formed and subsequently die-cut. The sheet of material may contain distorted indicia such that the indicia upon being vacuumed formed is stretched into proper proportion. Further, the material itself comprising the mask 16 may be colored and tinted and may contain metallic flakes. It is contemplated that the material may be laminar with various layers containing indicia and/or coloring. The mask 16 may

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In addition, there is provided a method of forming the above described face shield/fan 10 of the present invention. It is contemplated that the various component part of the face shield/fan 10 of the present invention may  
5 comprise a thermal plastic material which is vacuum formed and die-cut.

Additional modification and improvements of the present invention may also be apparent to those of ordinary skill in the art. Thus, the particular combination of  
10 parts described and illustrated herein is intended to represent only one embodiment of the present invention, and is not intended to serve as limitation of alternative devices within the spirit and scope of the invention.

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